

CLAIMS:

1. A method of estimating traffic values or intervals in a communications network, the network comprising a plurality of nodes being interconnected by links, the method comprising the steps of
 - 5 (a) obtaining traffic data through said nodes and/or links as input data;
 - (b) obtaining network data relating to the network topology and network behaviour; and
 - (c) estimating the effect of a modification of said communications
10 network and/or its behaviour by calculating traffic information between a selected first and a selected second node of said network using said input data.
2. A method according to claim 1, wherein said traffic
15 information is a cumulated traffic flow.
3. A method according to claim 1 or 2, wherein said input traffic data are measurements of traffic data obtained from said network.
- 20 4. A method according to any preceding claim, wherein said modification of said network or network behaviour comprises one or more of: a modification of the network topology, a modified routing algorithm

parameter, a modified traffic engineering constraint and/or a modified traffic load.

5 5. A method according to any preceding claim, further comprising the step of correcting said input traffic data if inconsistencies are detected.

6. A method according to any preceding claim, wherein said traffic information is calculated using linear constraints in a traffic flow
10 model.

7. A method according to any preceding claim, further comprising evaluating the impact of the network or network behaviour modification from the calculated traffic information.
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8. A method according to any preceding claim, repeating step (c) for different pairs of said first and second nodes corresponding to different modifications.

20 9. A method according to claim 8, further comprising the step of selecting, according to predefined criteria, one or more candidates for modifying said communications network corresponding to one or more of said modifications.

10. A method according to claim 9, further comprising the step of calculating a detailed analysis of traffic values or traffic intervals for one or more of the selected candidates.
- 5 11. A method according to claim 10, wherein said traffic values or intervals are calculated using a traffic flow model being based on
- (a) traffic data measurements through said nodes and links as input data; and
 - (b) a plurality of constraints describing network topology and
10 behaviour.
12. A method of calculating traffic values or intervals in a communications network, the communications network comprising a plurality of nodes, the nodes being connected to one another by links, the method
15 comprising:
- calculating the cumulated traffic flow between a first and a second of said nodes in a traffic flow model using linear constraints;
- said traffic flow model being based on
- (a) traffic data measurements through said nodes and links as input
20 data; and
 - (b) a plurality of constraints describing the network topology and behaviour.

13. A method according to claim 12, further comprising the step of correcting said input data if inconsistencies are detected.

14. A method of calculating traffic values or intervals in a communications network, the communications network comprising a plurality of nodes, the nodes being connected to one another by links, the method comprising:

obtaining traffic data through said nodes and links as input data; and
calculating a cumulated traffic flow from a selected first node to a selected second node using said input traffic data.

15. A method of modifying a communications network, the network comprising a plurality of nodes being interconnected by links, the method comprising the steps of

- (a) obtaining traffic data through said nodes and/or links as input data;
- (b) obtaining network data relating to the network topology and network behaviour; and
- (c) automatically selecting promising candidates for a network modification by calculating a cumulated flow using said traffic and network data, wherein the candidates are selected according to predefined selection criteria.

16. An apparatus for calculating traffic values in a communications network, adapted to perform the method of any preceding claim.

5 17. A network management system for managing a network, adapted to perform the method of any of claims 1 to 15.

18. A computer program for performing the method of any of claims 1 to 15 when operated in a computer system.

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19. A method of calculating data traffic substantially as described herein with reference to the accompanying drawings.